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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

QUASH, ANTHONY G

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/774,644

Applicant(s)

GRIFFIN, MATTHEW ET AL

Examiner

Anthony Quash

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 2/6/04 (application filed).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/6/04</u> . | 6) <input type="checkbox"/> Other: _____  |

***Drawings***

Numeral "38" listed on page 7 line 29 is not shown in the drawings.

***Claim Objections***

Claim 16 is objected due to the use of "capable of" in lines 24 and 28. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman [2003/0001084] in view of Miller [2005/0051719]. As per claims 1,3,5,8, Bateman [2003/0001084] teaches a method for analyzing a sample using ion mobility spectrometry, the method comprising: pulsing an ion gate located at one end of a drift tube during a pre-determined scan time using a temporally spaced pattern comprising a plurality of ion admitting periods and a plurality of ion repelling periods, each ion admitting period representing a distinct length of time; generating a time dependent mobility spectrum associated with the sample based upon the voltage induced by a plurality of sample ions passing into the drift tube during the admitting periods and

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striking an ion detector disposed at a second end of the drift tube opposite the first end.

See Bateman [2003/0001084] figs. 1,3b-11b, abstract, paragraphs [0006,0009-0011,0015,0017-0019,0026-0029,0031-0035,0072-0075,0085-0086,0089,0092-0095,0098,0102,0104,0108,0117,0119] and claims 28-30,46,59. However, Bateman [2003/0001084] does not explicitly state, processing the mobility spectrum to produce a distinct signature associated with the sample. Miller [2005/0051719] does teach processing the mobility spectrum to produce a distinct signature associated with the sample. Miller [2005/0051719] also teaches the length of time associated with each admitting period corresponding to a unique admission frequency and the processing further comprises evaluating the mobility spectrum using one or more statistical evaluators, and the distinct signature being associated with the sample to at least one known agent signature to determine if the distinct signature matches the known agent signature. See Miller [2005/0051719] abstract, figs.1-2b, 5,7-16,19,21-30,35,43 paragraphs [0009-0012, 0014, 0016, 0018-0023, 0053-0054,0074-0078,0100,0117,0127,0133,0149,0172-0180,0189-0192,0215-0216,0244,0260,0289,0311] and claim 20. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to processing the mobility spectrum to produce a distinct signature associated with the sample in order to aid in identifying individual constituents.

As per claim 2, Bateman [2003/0001084] in view of Miller [2005/0051719] teach all aspects of the claim except for explicitly stating that the sum of the distinct lengths of time equals 50% of the predetermined scan time. It would have been obvious to one

of ordinary skill in the art at the time the invention was made to have the sum of the distinct lengths of time equal 50% of the predetermined scan time, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art.

As per claim 4, Bateman [2003/0001084] in view of Miller [2005/0051719] teach all aspects of the claim except for explicitly stating decreasing the length of time associated with each admitting period as the corresponding admission frequency increases. It would have been obvious to one of ordinary skill in the art at the time the invention was made to decrease the length of time associated with each admitting period as the corresponding admission frequency increases since it was known in the art that as time decreases, frequency increases according to the formula; frequency =  $1/\text{time}$ .

As per claims 6-7, Bateman [2003/0001084] in view of Miller [2005/0051719] teach all aspects of the claim except for explicitly stating five statistical evaluators being used and that the five evaluators comprise average, standard deviation, maximum, minimum, and covariance. It would have been obvious to one of ordinary skill in the art to have five statistical evaluators be used and have the five evaluators comprise average, standard deviation, maximum, minimum, and covariance, since it is well known in the art to use these evaluators for evaluating measurements.

Claims 9-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman [2003/0001084] in view of Miller [2005/0051719] and further in view of Wright [2004/0018519]. As per claims 9-17, Bateman [2003/0001084] in view of Miller

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[2005/0051719] teach all aspects of the claims except for explicitly stating that training a neural network using known agents, and using a fuzzy decision maker to analyze one or more sample signatures to identify one or more known agent signatures corresponding to each sample signature. Wright [2004/0018519] does teach training a neural network using known agents, and using a fuzzy decision maker to analyze one or more sample signatures to identify one or more known agent signatures corresponding to each sample signature. See Wright [2004/0018519] abstract, figs. 1,6-7, paragraphs [0010-0011,0016,0020, 0054-0057,0092,0129-0132,0135,0138,0152,0157], and claims 1,55-57,122. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to train a neural network using known agents, and using a fuzzy decision maker to analyze one or more sample signatures to identify one or more known agent signatures corresponding to each sample signature in order to detect, and identify dangerous substances and record and later identify new substances.

As per claim 18, Bateman [2003/0001084] in view of Miller [2005/0051719] and further in view of Wright [2004/0018519] teach all aspects of the claim except for explicitly stating the ion gate controller comprises a transistor-transistor logic level clock source. Bateman [2003/0001084] does however; teach pulsing ions through the ion gate. See Bateman [2003/0001084] paragraph [0092]. Therefore, it is inherent that the ion gate would be connected to a timing device and therefore would provide an equivalent function.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Nos. and Published Patent Applications 5,162,652 to Cohen et al, 5,340,983 to Deinzer et al, 2003/0176804 to Melker, 2005/0061967 to Shvartsburg et al, 2003/0052263 to Kaufman et al, and 2003/0114986 to Padmanabhan et al. are considered pertinent to the applicants' disclosure. Cohen [5,162,652] is considered pertinent due to its discussion on a method and apparatus for rapid detection of contraband and toxic materials by trace vapor detection using ion mobility spectrometry. Deinzer [5,340,983] is considered pertinent due to its discussion on a method and apparatus for mass analysis using slow monochromatic electrons. Melker [2003/0176804] is considered pertinent due to its discussion on a method and apparatus for monitoring respiratory gases during anesthesia. Shvartsburg [2005/0061967] is considered pertinent due to its discussion on pattern recognition of whole cell mass spectra. Kaufman [2003/0052263] is considered pertinent due to its discussion on a system for collection of data and identification of unknown ion species in an electric field. Padmanabhan [2003/0114986] is considered pertinent due to its discussion on architectures of sensor networks for biological and chemical agent detection and identification.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Quash whose telephone number is (571)-272-2480. The examiner can normally be reached on Monday thru Friday 9 a.m. to 5 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571)-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. Quash  
*A.Z.*  
6/27/05

*Nikita Wells*  
NIKITA WELLS  
PRIMARY EXAMINER 06/27/05